

AMENDMENTS

Claims 1-5 are pending.

Claim 1 has been amended.

Claims 3-5 have been added.

Support for the amendments is found in the claims and specification ([0002], [0003], [0007], [0008], [0009], and [0017]), as originally filed. No new matter is believed to have been added.

REMARKS AND REQUEST FOR RECONSIDERATION

The addition of an oil or fat having a high unsaturated fatty acid content to a pet food can be problematic because when stored over a long term, the oil or fat is prone to denature, develop an unpleasant smell, and have impaired taste. Furthermore, the addition of minerals, such as copper, iron, manganese and cobalt, to an oil or fat having a high unsaturated fatty acid content as nutrients is reported to accelerate the oxidation reaction of the oil or fat, so that the long-term storage stability of the minerals decline. *See* pages 1-2 of the present specification.

The inventors have investigated the stability of pet food systems combining an oil or fat having a high unsaturated fatty acid content and minerals, by adding various ingredients. As a result, it has been found that the long-term storage stability improves pronouncedly when 5 wt% or more of diacylglycerol is contained in the oil or fat and from 0.1 wt% or more of a vitamin C derivative is added, based on the oil or fat containing unsaturated fatty acids. *See* page 3 of the present specification.

Also, the claimed pet food provides an excellent anti-obesity effect and improved skin and hair conditions (pages 1, 3-4 of the present specification and the data submitted with this paper).

Thus, the claimed pet food comprising the claimed (i) oil and fat composition and minerals, and (ii) a vitamin C derivative (e.g., ascorbic acid palmitate), provides stability to the claimed pet food and also provides a long-term improvement of the skin and hair health conditions and a long-term anti-obesity effect *See* pages 1-4 of the present specification and the Declaration of Tomoshige Umeda submitted with this paper.

Claims 1-2 are rejected under 35 USC 103(a) as being obvious over Suzuki US 6,764,708 and Schoenherr US 2004/0101545 in view Shields US 6,156,355, Tao US 6,245,377, and Graf 5,270,337 and further in view of Lacombe US 6,277,435 and Lepine US 5,851,573. The rejection is traversed because (a) the combination of the cited references does not suggest selecting the specific claimed composition, and (b) the claimed pet food surprisingly provides an advantageous benefit due to the selection of a DAG- and polyunsaturated fatty acid-containing oil or fat and a vitamin C derivative such as ascorbic acid palmitate.

In addition, the cited references do not describe administering the claimed pet food for obtaining long-term skin and hair health benefits and a long-term anti-obesity effect (claims 4-5).

The cited references describe various ingredients of pet food. However, the cited references do not describe selecting the specific claimed pet food from an unlimited number for possible ingredients/amount to be tested for improving pet food.

Further, the cited references do not make the claimed pet food obvious because the claimed composition surprisingly provides an advantageous result.

Specifically, the claimed composition surprisingly provides a long-term benefit, i.e., improves or maintains a long-term skin and hair health conditions which are not disclosed or suggested in the references cited by the Examiner, as well as a surprising long-term anti-obesity effect. The benefits are be obtained due to the selection of a DAG- and

polyunsaturated fatty acid-containing oil or fat and a vitamin C derivative such as ascorbic acid palmitate in the combination as claimed.

To demonstrate an advantage of the claimed pet food, Applicants conducted two experiments. Example A shows an improvement or maintenance of the long-term skin and hair health conditions as well as a surprising long-term anti-obesity effect, while Example B shows an improvement or maintenance of a long-term skin and hair health conditions.

Each diacylglycerol-containing plant oil having the composition as shown in Table 1' was added with 0.6 wt% (60000 ppm) of ascorbic acid palmitate based on the oil to provide a blended oil, and each pet food was then produced in accordance with the formulation as shown in Table 2'.

Table 1'

Composition of fatty acid in diacylglycerol-containing plant oil	Example A (wt%)	Example B (wt%)
C16:0	19.10	11.50
C16:1	4.10	2.30
C18:0	4.60	3.50
C18:1	39.60	40.40
C18:2	27.90	35.60
C18:3 (n-3)	2.40	4.60
C20:0	0.20	0.20
C22:0	0.10	-
C22:1	0.30	-
C24:0	0.20	-
C24:1	0.10	-
MAG	0.00	0.70
DAG	23.50	47.70
TAG	76.50	51.50
Fatty acid having two or more double bonds	30.30	40.20

Table 2'

Materials for pet food	Example A		Example B	
	Amount added (wt%)		Amount added (wt%)	
Chicken meat and chicken meal	34		34	
Plant protein	9		9	
Cereal (barley, corn, sorghum)	40		40	
Beet pulp	5		5	
Blended oil	7		7	
Minerals ¹	3		3	
Vitamins	2		2	
Evaluation	Improved	No change	Improved	No change

	(%)	(%)	(%)	(%)
Skin condition	24	71	7	89
Hair condition	15	21	29	71
Anti-obesity effect	90 (total percentage)		-	

¹Total amounts of copper, iron, manganese and cobalt in the minerals of Examples A and B were 1.13 wt% and 1.17wt%, respectively.

Example A

A pet food having the formulation of Example A as shown in Table 2' was prepared. Twenty one obese dogs were each fed with a specific amount of the pet food three times per day for eight weeks to evaluate skin and hair conditions, as well as an anti-obesity effect thereof. After the feeding, the dogs' owners were asked whether their dogs had changed, improved or had no change. Each percentage of the evaluation was calculated by dividing the number of owners who answered that their dog had been improved or had no change by the total number of the owners (21) and multiplying the resultant value by 100. If there is an owner who did not answer, the number thereof is subtracted from the total number of the owners (21).

Example B

The pet food having the formulation of Example B as shown in Table 2' was prepared. Nine nonobese dogs and nineteen obese dogs were each fed with the pet food freely for 3 weeks to evaluate their skin and hair conditions. After the feeding, their owners were asked whether their dogs had changed, improved or had no change. Each percentage of the evaluation was calculated by dividing the number of owners who answered that their dogs had been improved or had no change by 28 and multiplying the resultant value by 100. If there is an owner who did not answer, the number thereof is subtracted from the total number of the owners (8).

Applicants have found that because the evaluation results in Examples A and B were "Improved" or "No change", the claimed pet food yields excellent benefits in terms of the skin and hair health conditions, as well as the anti-obesity effect over a long period of time.

In addition, the claimed composition comprising ascorbic acid palmitate provides an advantageous storage stability effect.

POV Testing Method (see pages 11-13 of the present specification).

Each peroxide value (POV) was analyzed in accordance with 2.4.12.2-94 "Peroxide Value" of "The Standard Methods for the Analysis of Fats, Oils and Related Materials" established by The Japan Oil Chemists' Society. A POV smaller than 30 was assessed to be acceptable (accelerated testing method). An open container was filled with each pet food, and then stored for 3 months in an air-conditioned chamber controlled at 40°C and 75% R.H. The POV of the oil or fat in the pet food after the storage was measured. Blended oils W-Z comprise the same diacylglycerol-containing plant oil having the composition presented on page 10 of the present specification and different antioxidants shown in Table 3 below.

[Table 3, page 12 of the present specification]

Blended oils	Blended oil W	Blended oil X	Blended oil Y	Blended oil Z
Antioxidant2) Ascorbic acid palmitate Tocopherol Rosemary extract Citric acid	6,000	6,000	6,000	6,000
POV after production (meq/kg)	2.25	2.15	2.30	2.20
POV after accelerated test (meq/kg)	130	100	25	140

2) ppm based on oil

As a result, it was found that as shown in Table 3, only the oil or fat in the pet food to which the blended oil Y with ascorbic acid palmitate was added had a POV smaller than 30 after the accelerated test and had a long-term storage stability improving effect.

As can be seen from the present specification and the additional experiments conducted by Applicants, the claimed pet food composition provides surprising advantageous storage stability and a long term anti-obesity effect and the skin and hair health conditions.

Thus, the cited references do not make the claimed pet food obvious.

Applicants request that the rejection be withdrawn.

A Notice of Allowance for all pending claims is requested.

Respectfully submitted,

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